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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,519	01/09/2001	Craig R. Horne	N19.12-0051	8679

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Peter S. Dardi, Ph.D.  
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.  
4800 IDS Center  
80 South 8th Street  
Minneapolis, MN 55402-2100

EXAMINER

STRICKLAND, JONAS N

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 01/27/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/757,519

Applicant(s)

HORNE ET AL.

Examiner

Jonas N Strickland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6-18 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10,17 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 1-16 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. This Office Action is in response to the response filed on 11/12/02 as Paper No.
18. Claims 1-3, 6-18 and 22-26 are pending.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6-9, 17 and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Koksbang (US Patent 5,549,880).

Koksbang discloses a lithium-vanadium oxide material having an electrolyte-binder support (col. 1, lines 22-29). The reference teaches that the product of the invention is in a small particle size on the order of 0.1 to 5 microns, and typically less than 10 microns (col. 2, lines 58-60). The battery has electrically conductive materials. Koksbang teaches wherein the lithium alkoxide is heated with the vanadium oxide compound (see abstract). Furthermore, Koksbang teaches that the particle size increases the performance of the cathode by not allowing large particles to break, which occurs during intercalation/disintercalation cycles; decreasing contact loss; improving contact between the active material and the conductive material, which allows higher current to be applied (col. 6, line 58 – col. 7, line 4).

With respect to claims 6-9 and 23, it would be inherent based on the diameter of the metal vanadium particles as taught by Koksbang, for the collection of particles and the battery to have a diameter greater than about 4 times the average diameter of the collection particles and to maintain the claimed distribution of particle sizes, because Koksbang teaches a metal vanadium oxide having an average diameter less than about 1 micron. Furthermore, Koksbang et al teaches wherein heating a mixture of vanadium oxide particles with a non-vanadium metal compound produces the metal vanadium oxide. Since, Koksbang teaches the same method for making the particles of metal vanadium oxide as instantly claimed and the size of the particles, it would be expected for the metal-vanadium particles of Koksbang to exhibit the same average diameter of the collection of active particles, since Koksbang clearly discloses a metal vanadium oxide having a diameter of less than about 1 micron.

4. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Koksbang (US Patent 5,512,214).

Koksbang discloses a process for producing lithium-vanadium metal oxides. The reaction occurs more rapidly when the components are heated (col. 2, lines 44-46). Furthermore, Koksbang continues to disclose wherein the vanadium oxide has a starting particle size of less than 10 microns (col. 5, lines 1-6) and that smaller particle sizes are favorable, because the larger the surface area, the amount of current drawn from a battery is higher, while the current density on the surface of the active material remains low, which allows high utilization of the active material (col. 1, lines 40-46).

Koksbang continues to disclose wherein the oxide particles are very fine and of the micron or submicron size (col. 4, lines 55-57).

***Allowable Subject Matter***

5. Claims 11-16 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. Applicant's arguments filed 11/12/02 have been fully considered but they are not persuasive.

Applicant points out that submicron particles with a narrow particle distribution could not be selected from another collection of particles based on the teachings of Koksbang '880. Applicant further argues that Koksbang '880 does not provide to a person of ordinary skill in the art narrower distributions of particles that can be separated out of the broader distribution. Applicant also argues that the production method of the particles of the instantly claimed invention and Koksbang '880 are different and therefore the products are not the same. It should be noted that Applicant's instant invention is directed towards a collection of particles comprising a metal vanadium oxide having a diameter of less than 1 micron and not a process of making. Furthermore, Koksbang '880 clearly discloses wherein the metal vanadium oxide particles may have a diameter of 0.5 microns, which meets the instant claims.

With respect to Applicant's statement regarding the filtration technology, Applicant's claim does not read on filtration technology, but solely on the size of the

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metal vanadium oxide particles. Therefore, selecting a narrow particle distribution from a broader distribution based on filtration technology is irrelevant with respect to the instant claims and the teachings of Koksbang '880. Furthermore, the instant claims do not claim having a selection of a portion of collected particles to form a more uniform material. Koksbang '880 has been applied to teach metal vanadium oxide particles having a diameter of less than 1 micron.

Koksbang et al. '214 has been applied to teach wherein metal vanadium oxide particles are prepared through a heat treatment, having a particle size of less than 10 microns and wherein the oxide particles are very fine and of the micron or submicron size.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH. 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.



Jonas N. Strickland  
January 17, 2003



WAYNE A. LANGEL  
PRIMARY EXAMINER